

**REMARKS**

Claims 31-34, 36-39, and 44 have been amended. Claims 35, 40-43, and 45-47 have been canceled. No new claims have been added. Claims 1-34, 36-39, and 44-45 are pending.

Applicant's representative confirms the election of claims 1-34 and 36-47 for further examination, originally made by telephone on August 10, 2004. Non-elected claim 35 has been canceled without prejudice.

Applicant's representative is grateful for the allowance of claims 1-30.

Claims 46-47 stand objected to as being duplicates of claims 41 and 43. Claims 41, 43, and 46-47 have been canceled. Accordingly, the objection to the claims should be withdrawn.

Pending claims 31-32, 34, 36-37, and 39 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Yakovlev (U.S. Patent No. 6,670,904). Claim 45 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Gowda (U.S. Patent No. 5,920,274). These rejections are respectfully traversed.

Claim 31 is directed to "[a] method for converting an analog signal to a digital word." Claim 36 is directed to "[a] method for operating an imaging system comprising the step of converting an analog pixel signal into a digital word." Both claims 31 and 36 recite, *inter alia*, "measuring a magnitude of said analog signal" and "if said magnitude is not greater than a predetermined threshold, mapping said magnitude to a digital word in accordance with a first transfer function; and if said magnitude is at least equal to said predetermined threshold, mapping said magnitude to the digital word in accordance with a second transfer function."

Yakovlev is directed to double-ramp analog to digital converter for use with CMOS imagers. Referring to Fig. 3, Yakovlev discloses a two-stage conversion process for an analog input signal  $V_{in}$ . In the first conversion step, the input signal  $V_{in}$  is compared against variable threshold  $V_c$ . The level of the variable threshold is changed in accordance with a function  $V_{coarse}$  which corresponds with changes in a most significant bit (MSB) portion of a digital word. After the variable threshold level crosses the level of the input signal  $V_{in}$ , the MSB portion of the conversion is completed and the LSB portion of the conversion is initiated by increasing the variable threshold level using the last value of the  $V_{coarse}$  function plus the ramping up value of the  $V_{fine}$  function. Accordingly, Yakovlev discloses a system in which the input signal is compared against a variable threshold level. While Yakovlev discloses mapping an analog signal to a digital signal using a combination of the  $V_{coarse}$  and  $V_{fine}$  functions, the threshold level of Yakovlev is variable and dependent upon the level of the input signal  $V_{in}$ . Accordingly, Yakovlev fails to disclose or suggest the steps of "if said magnitude is not greater than a predetermined threshold, mapping said magnitude to a digital word in accordance with a first transfer function; and if said magnitude is at least equal to said predetermined threshold, mapping said magnitude to the digital word in accordance with a second transfer function" as recited in independent claims 31 and 36.

Accordingly, independent claims 31 and 36 are believed to be allowable over the prior art of record. The depending claims, i.e., claims 23-34 and 37-39, are also believed to be allowable for at least the same reasons as the independent claims.

Claim 44 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yakovlev in view of Gowda. Claim 44 has been rewritten as an independent claim. The rejection of claim 44 is respectfully traversed. As noted in the Office Action, the Yakovlev patent is assigned to Micron Technology, Inc., the same assignee as the

present application. Yokovlev was filed on August 22, 2002 and issued on December 30, 2003. The present application was filed on October 27, 2003. Thus, Yokovlev qualifies as prior art to the present application only under 35 U.S.C. § 102(e). 35 U.S.C. § 103(c) states: "[s]ubject matter developed by another person which qualifies a prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made ... subject to an obligation of assignment to the same person." In this instance, both Alexey Yakovlev and Alexadander Krymski, the inventor of the present application, were employed by Micron Technology, Inc. at the time of their respective inventions and were subject to an obligation to assign their inventions to Micron Technology, Inc. Evidence of this obligation include the assignment documents executed by each inventor (copies enclosed). Accordingly, the rejection under 35 U.S.C. § 103(a) to claim 44 should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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